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10/627,096	07/24/2003	Toshiki Hirano	HSJ920030046US1	2245

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EXAMINER

MILLER, BRIAN E

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/627,096

Applicant(s)

HIRANO ET AL.

Examiner

Brian E. Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,7-12,17-23 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) 7,17 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,8-12,18-23 and 29-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ✓ 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ✓ 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Claims 1-2, 7-12, 17-23, 28-32 are now pending.

Election/Restrictions

1. Applicant's election of species (1) in the reply filed on 2/23/06 is acknowledged.

Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

*Nonelected Claims 3-6, 13-16 and 24-27 have been canceled in view of this requirement, thus only elected claims (according to applicant) remain pending. Upon further review of the elected claims, however, claims 7, 17, 28 are considered to be drawn to a non-elected species as well.

2. Claims 7, 17, 28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 2/23/06.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the: (a) flexible cable that is directly attached...to the micro-fabricated chip." (as recited in claims 21, 32); and the (b) "passive chip structure," as recited in claims 7, 17, 28, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing

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sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 7, 17, 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The only structure of the “micro-fabricated chip” sufficiently described in the specification is the “microactuator” type.

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There is no disclosure of the “passive chip structure” to enable one skilled in the art to which it pertains/connected, to make and/or use the invention.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 21 & 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (a) claims 21 & 32) the phrase “without mechanical compliance” is vague, as it is not readily apparent what structural limitation this phrase encompasses.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-2, 8-12, 18-20, 22-23, 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Boutaghou et al (US 6,069,771) Boutaghou et al discloses a “micro-fabricated chip”, as shown in FIGs. 2A-2B, comprising: (with respect to claim 1) a stationary structure including 38a/32/31; and a movable structure 38b having a gimbal structure 33/34, the gimbal structure allowing pitch and roll motion of the movable structure with respect to the stationary structure (see also col. 2, lines 40-65); (as per claim 2) wherein the gimbal structure includes a dimple surface, e.g., on the top surface of the slider making a rolling-type contact with the stationary structure 31; (as per claim 8) wherein the micro-fabricated chip is a microactuator,

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e.g., 38a, 38b; (as per claim 9) wherein the movable structure moves in a rotational direction, i.e., about axis 36, with respect to the stationary structure (see col. 2, lines 59-62).

(As per claim 11) Boutaghou et al discloses a suspension 32 for a disk drive, comprising: a load beam 32; a micro-fabricated chip having a stationary structure 38a and a movable structure 38b having a gimbal structure 33/34, the stationary structure 38a being attached to the load beam 32 and the gimbal structure 33/34 allowing pitch and roll motion of the movable structure with respect to the stationary structure; and a slider 34, e.g., considered part of the gimbal structure, attached to the movable structure; (as per claim 12) wherein the gimbal structure includes a dimple surface, e.g., top of slider 34, making a rolling-type contact with the stationary structure 31; (as per claim 18) wherein the micro-fabricated chip is a microactuator 38; (as per claim 19) wherein the movable structure and the slider move in a rotational direction with respect to the stationary structure (see col. 2, lines 59-62).

As claims 22-23, 29-30 include similar limitations to the claims as described above, they are rejected under the same grounds.

With respect to claims 10, 20 and 31, Boutaghou et al further discloses the movable structure moves in a translational direction with respect to the stationary structure (refer to FIGs. 3A, 3B and col. 3, lines 29-58).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 21, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boutaghou et al in view of Ichikawa et al (US 6,621,661). For a description of Boutaghou et al, see the rejection, supra. Boutaghou et al does not expressly teach/show a “flexible cable that is directly attached to the load beam without mechanical compliance and forms at least one electrical connection to the micro-fabricated chip.” Ichikawa et al, however, discloses a microactuator/slider suspension configuration (see FIG. 2, 7 for example) including a flexible cable/wire 52 which is in close contact with the suspension 3 and makes electrical connection(s) with the microactuator (see col. 7, line 59-col. 8, line 16). From this teaching, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided such a wiring configuration to Boutaghou et al. The motivation would have been: having such a wiring scheme would have permitted electrical connection(s) to the microactuator and slider without unnecessary mechanical stress to the slider/suspension assembly, as would have been realized by a skilled artisan.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian E. Miller whose telephone number is (571) 272-7578. The examiner can normally be reached on M-TH 6:30am-4:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian E. Miller
Primary Examiner
Art Unit 2627

BEM
May 3, 2006